

REMARKS

Claim 7 has been amended in a sincere attempt further to distinguish the instant invention over the prior art. The claim now specifies that the heating board is formed in a single line; this change was made following the helpful discussions with the Examiner. It is noted for the record that the Examiner is of the present view that the amendment to claim 7 would not put the case in condition for allowance. Applicants respectfully submit for the reasons appearing below that claims 7 and 8 are patentable.

The rejection of claim 7 under 35 USC 103 as unpatentable over Ohno '536 in view of Nied et al. '490, if applied to the claims as amended, is respectfully traversed. Arguments for the patentability of the claims prior to amendment appeared in the Amendment Under 37 CFR 1.111 filed May 9, 2002; applicants respectfully submit that the arguments are still applicable here. The Examiner stated during recent discussions with the undersigned that the claims as they read at the time of the Final Rejection were still unpatentable over or suggested by the combination of references; the Examiner stated further that a change along the line indicated and made would help to distinguish, it is to be hoped in a patentable sense, over the prior art. (As noted above,

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the Examiner at present does not believe the claims are patentable.) The change to the claim is clearly supported by the case drawings Figs. 25 and 26. It is believed apparent that the Nied et al. '490 device requires the shown arrangement of conductive electrode segments 24 to accomplish the desired thermoforming. There is no proper motivation or suggestion to have a heating board arrangement as claimed here. The instant invention, as Ohno '536, relates to an apparatus for forming a pattern onto an article during injection molding. Nied et al. '490, in contrast, relates to an apparatus for differentially heating and thermoforming a polymer sheet. Applicants say that the multi-element electrode arrangement in Nied et al. '490 is an absolute necessity to accomplish the objects of that invention; to replace the multi-element electrode arrangement with a vertical direction one-line arrangement of heating blocks would eliminate the ability differentially to heat and thermoform the polymer. The artisan would not be directed to the present invention by a joint consideration of the references.

The rejection of claim 8 under 35 USC 103 as unpatentable over Ohno '536 and Nied et al. '490 further in view of Chapman '669 is also respectfully traversed. The tertiary reference is cited to

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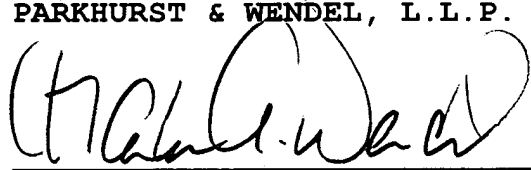
show it is known to use a temperature sensor with heating blocks. The reference, however, does not supply that which is missing from the disclosure of the first two references and the rejection should be withdrawn as well. Applicants reiterate that Nied et al. '490 cannot properly provide the motivation to use a vertical direction one-line arrangement of heating blocks.

In view of the foregoing revisions and remarks, it is respectfully submitted that claims 7 and 8 are in condition for allowance and a USPTO paper to those ends is earnestly solicited.

The Examiner is requested to telephone the undersigned if additional changes are required in the case prior to allowance.

Respectfully submitted,

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Enclosure:
Markup

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molding position where a male mold and a female mold are opposed;

heating board means for heating said pattern-bearing film so as to soften it, said heating board means having a heating surface and being movable into and away from a space between said male mold and said female mold;

means for transferring said pattern-bearing film to an internal surface of said female mold so as to contact said pattern-bearing film with said internal surface;

means for causing said male mold and said female mold with said pattern-bearing film therein to approach each other to form a closed molding cavity; and

resin injecting means for injecting a molten resin into said cavity to form a molded article to adhere said pattern-bearing film to the surface of said article,

the improvement comprising:

heating wire means, arranged at the upstream-side of the female mold along the film feeding direction, for heating the pattern-bearing film so as to cut it into a proceeding portion and a following portion thereof when the heating board means is pressed into the parting surface of the female mold.

7. (Thrice Amended) An apparatus for forming a pattern onto an article during an injection molding thereof, comprising:

5 feed means that feeds a pattern-bearing film to a molding position where a male mold and a female mold are opposed;



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a heating board formed in a single line and that heats said pattern-bearing film so as to soften it, said heating board having a heating surface and being movable into and away from a space between said male mold and said female mold;

transfer means that transfers said pattern-bearing film to an internal surface of said female mold so as to contact said pattern-bearing film with said internal surface;

closing means that causes said male mold and said female mold with said pattern-bearing film therein to approach each other to form a closed molding cavity; and

a resin injecting device that injects a molten resin into said cavity to form a molded article to adhere said pattern-bearing film to the surface of said article;

wherein (1) said heating board is formed in a single line and is divided into a plurality of heating blocks, each of said blocks independently controlling heat generated by the block, and (2) said heating blocks are arranged in a vertical direction in one line so that one heating block is disposed adjacently above another heating block.

